AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims

1-16. (Cancelled)

17. (New) A method for reducing the number of feeders between a radio base station and a receiver diversity antenna arrangement that comprises at least two spaced apart antennas each adapted for reception of individual RF signals, said RF signals all being at the same frequency, said method comprising the steps of:

converting one or more received antenna signals into a corresponding number of intermediate frequency (IF) signals by mixing with a first set of a corresponding number of reference signals; and,

forwarding the signals received on all the antennas, of which one or more have been frequency converted to the base station on a single feeder.

18. (New) The method recited in claim 17, wherein the diversity antenna arrangement comprises *n* antennas, said method comprising the steps of:

converting all received antenna signals except one and forwarding the non-converted antenna signal together with all converted IF signals to the radio base station on the single feeder, thus providing *n*-way diversity with a single feeder.

19. (New) The method recited in claim 17, wherein the diversity antenna arrangement comprises *n* antennas, said method comprising the step of converting all received antenna signals and forwarding them to the radio base station on the single feeder, thus providing *n*-way diversity with a single feeder.

20. (New) The method recited in claim 17, characterized by converting the IF signals to second IF frequencies by mixing them with a second set of reference signals in order to obtain a second set of IF signals which are forwarded to the base station on the single feeder.

21. (New) The method recited in claim 17, wherein the diversity antenna arrangement comprises a first and a second antenna, said method comprising the steps of:

converting the antenna signal on the second antenna into an IF signal and forwarding the IF signal together with the non-converted antenna signal on the first antenna to the radio base station on a single feeder, thus providing 2-way diversity with a single feeder.

22. (New) The method recited in claim 17, wherein there are two diversity antenna arrangements, one comprising a first and a second antenna, the other comprising a third and fourth antenna, said method comprising the steps of:

converting the RF signals from the second and fourth antennas into first and second IF signals, both of the same intermediate frequency;

forwarding the non-converted antenna signal on the first antenna together with the first IF signal on a first feeder to the base station; and,

forwarding the non-converted antenna signal on the third antenna together with the second IF signal on a second feeder to the base station, thus providing 4-way diversity with two feeders.

23. (New) The method recited in 17, further comprising the steps of:

converting, at the radio base station, the IF signals into other IF signals, all on the same intermediate frequency, by mixing them with a set of reference signals and subjecting the twice frequency converted signals on the common intermediate frequency to diversity signal processing.

24. (New) A receiver diversity antenna arrangement, comprising:

at least two diversity antennas each adapted for reception of individual radio frequency (RF) signals, said RF signals all being of the same frequency;

one or more frequency converters each adapted to convert a respective antenna signal to a respective intermediate frequency signal (IF) by mixing it with a predetermined frequency;

a combiner for combining the signals received on all the antennas, of which signals one or more have been frequency converted, to form a composite signal which is forwarded to a radio base station on a single feeder.

25. (New) The receiver diversity antenna arrangement recited in claim 24, wherein a signal from a diversity antenna follows a diversity branch characterized by providing a frequency converter in each diversity branch except one.

26. (New) The receiver diversity antenna arrangement recited in claim 24, wherein a signal from a diversity antenna follows a diversity branch characterized by providing a frequency converter in each diversity branch.

27. (New) The receiver diversity antenna arrangement recited in claim 23, wherein a second set of frequency converters are adapted to convert the first set of IF signals into a second set of IF signals for transport to the radio base station on the single feeder.

28. (New) The receiver diversity antenna arrangement recited in claim 23, wherein there are two diversity antennas, one of which is connected to a first duplex filter so as to provide for reception and transmitting characterized by a single frequency converter converting the antenna signal from the second antenna to an intermediate frequency to form an IF signal, the combiner combining the original RX signal from the first antenna with the IF signal into a composite signal, and a single feeder forwarding the composite signal to the base station, thus providing 2-way diversity with one feeder.

29. (New) The receiver diversity antenna arrangement recited in claim 25, further comprising:

a duplicate diversity antenna arrangement to provide a composite diversity antenna arrangement comprising four antennas and two feeders, each antenna arrangement comprising a respective single feeder, thus providing 4-way diversity with two feeders.

30. (New) A frequency converter unit for use with at least one feeder on which a plurality of signals at mutually different frequencies are transported on a single feeder, characterized by a corresponding plurality of frequency converters (55-58) for converting the signals into a corresponding number of signals all at the same frequency (RX1).

31. (New) A radio base station, comprising:

a transceiver with a plurality of frequency converters adapted to provide frequency translated signals, called diversity signals, all at the same frequency; and,

means for signal processing the diversity signals in order to obtain an enhanced signal, comprising means connected to the input of the transceiver to receive from one single feeder at least one intermediate frequency signal (IF) together with either a non-frequency translated antenna signal and/or other frequency converted IF signals, and to supply said latter signals to respective ones of said frequency converters so as to provide said diversity signals.

32. (New) A site comprising a radio base station (RBS), at least one tower-mounted unit (TMA) with filters and RF amplifiers, at least two antennas for providing diversity, the signals received by the antennas being RF signals which all are of the same frequency characterized by at least one frequency converter provided in the TMA and connected to one of the diversity antennas in order to convert the antenna's RF signal into an IF signal at a non-used frequency, and a combiner combining the IF signal with either a non-converted RF antenna signal and/or other converted IF signals into a composite signal which is applied to a single feeder extending between the TMA and the RBS.